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| **Mathematics - Year 7** |
| Throughout the year, pupils will be exploring a range of maths. This will include statistics, number, algebra and geometry. Pupils will solve problems and not only learn to do maths, but why and how we do maths. Pupils will learn to understand the following concepts in order to deepen and broaden their knowledge, skills and understanding.*Competence*: Applying suitable mathematics accurately within the classroom and beyond; communicating mathematics effectively; selecting appropriate mathematical tools and methods, including *ICT Creativity*: Combining understanding, experiences, imagination and reasoning to construct new knowledge; using existing mathematical knowledge to create solutions to unfamiliar problems; posing questions and developing convincing arguments.*Applications and implications of mathematics*: Knowing that mathematics is a rigorous, coherent discipline; understanding that mathematics is used as a tool in a wide range of contexts; recognising the rich historical and cultural roots of mathematics; engaging in mathematics as an interesting and worthwhile activity.*Critical understanding*: Knowing that mathematics is essentially abstract and can be used to model, interpret or represent situations, recognising the limitations and scope of a model or representation |
| **Topics Covered** |
| **Term 1** | **Term 2** | **Term 3** |
| * Number and the number system
* Properties of shape
* Algebra
* Probability and calculating
* Calculating Space
* Representing Data
 | * Calculating
* Visualising and construction.
* Proportional Reasoning.
* Sequences.
* Fractions, decimals and percentages.
* Linear Equations
 | * Problem solving
* Transformations
* Sets and Venn diagrams.
* More fractions, decimals and percentages.
* Measuring Data.
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| **Assessment/Exams Information** |
| **December** | **March** | **June** |
| Main exam : 1 hourExtension: + 30 mins | Main exam : 1 hourExtension: + 30 mins | Main exam calculator: 1 hourMain non calculator: 1 hour |
| Cross curricular  |
| **Literacy** : * Correct spelling of 2D and 3D shape names.
* Correct use and understanding of words describing probability.
 | **Literacy :*** Constructing sentences to visualise 3D shapes.
* Constructing algebraic expressions and equations.
 | **Literacy :*** Read problem solving questions with care and understanding
* To be able to highlight key words in a question.
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| **Numeracy :** * Using and understanding the different types of numbers (even, odd, prime, square, cube…)
* Introducing the use of letters to replace numbers and the rules used.
* Know how to calculate area and perimeter of a number of different shapes.
* Organising and representing data using a number of different strategies.
 | **Numeracy :*** Use rulers, protractors and compasses in construction.
* Use ratio and proportion.
* Write the next terms of a sequence and find the nth term.
* Concert between fractions, decimals and percentages.
* Solve linear equations.
 | **Numeracy :*** Reflect, rotate, translate and enlarge 2D shapes.
* Use Venn diagrams to sort information.
* Apply the four rules to fractions, decimals and percentages.
* Convert between different units of measurements.
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| **PSHCE :*** Linking area and perimeter to real life questions.
* Discuss the effects of different types of data have on society.
* Collect and interpret primary data collected by pupils.
 | **PSHCE :*** Being able to work as a team when visualising.
* Real life questions looking at proportional reasoning)
 | **PSHCE :*** Working together to solve real life problems.
* Linking measurements to real life. E.g. amount of petrol in a car, distance to Newcastle.
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| **Homework** Homework issued every 4 lessons. Homework consisting s of two parts, consolidation and extended learning. Online homework via My Maths can be used where teacher sees fit. |
| **Additional Support:**Pupils will be given regular topic tests. Intervention sessions will then be set up according to GAP analysis from both formal end of term exams and topic tests.  |
| **Extra-curricular/Enrichment:**Intervention groups after school on Wednesdays will be put in place. Homework club ran on a lunch time. |